

Curriculum vitae ANKE SCHAFFARTZIK

Mag. rer. soc. oec. Dr. phil., B. Sc.

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MAIN AREAS OF RESEARCH

- social metabolism
- global resource use and international trade
- international division of labor
- extractivism
- material flow accounting, environmentally extended input-output analysis

EDUCATION

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| 2015 | Doctor of philosophy (Dr. phil.), Institute of Social Ecology, Alpen-Adria Universitaet Klagenfurt-Wien-Graz, Vienna, Austria
Topic: Socio-Metabolic Trade Patterns: An Investigation of Concepts and Methods |
| 2009 | Master of social and economic sciences (Mag. rer. soc. oec.) in Social and Human Ecology, Institute of Social Ecology, Alpen-Adria Universitaet |
| 2005 | Bachelor of Science (B. Sc.) in Environmental and Resource Management, Brandenburg University of Technology, Cottbus, Germany |

EMPLOYMENT

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| since 2018 | Senior researcher at the Institute of Social Ecology, Department of Economics and Social Sciences (WiSo), University of Natural Resources and Life Sciences, Vienna, Austria |
| 2017-2019 | Postdoctoral research fellow at the Institute of Environmental Science and Technology (ICTA), Universitat Autònoma de Barcelona, Spain |
| 2007-2018 | Researcher and lecturer at the Institute of Social Ecology, Alpen-Adria Universitaet Klagenfurt-Wien-Graz, Vienna, Austria |

TEACHING

Graduate level courses:

- Environmentally extended input-output analysis (since 2015; EN)
- Methods of energy and environmental economics (2013; DE)
- Analytical methods in social ecology (annually since 2011; EN)
- Socio-ecological aspects of the international division of labour (since 2011; EN)
- Material and energy flow accounting and sustainable development (2009; DE)

Ongoing supervision of master's theses:

- Julia Lackner: Socio-ecological impacts of tobacco production in Nicaragua
- Kathrin Raunig: Materiality of FDI and related policy in Egypt
- Samanta Villegas: Decoupling economic growth and oil extraction in Ecuador

FELLOWSHIPS

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| 2017-2019 | Postdoctoral fellowship in Climate and Global Change, María de Maeztu (Spanish Ministry of Economy and Competitiveness) |
| 2011 – 2014 | DOC-team fellowship of the Austrian Academy of Sciences (ÖAW)
Topic: Causing Ignition: Biofuels and Social Conflict |

ANKE SCHAFFARTZIK
Publications

ORCID 0000-0002-0284-6099 *ResearcherID* E-6733-2015 *Google Scholar* <https://goo.gl/IO6OOJ>

ARTICLES IN PEER-REVIEWED JOURNALS

- Brad, A., Schaffartzik, A., Pichler, M., Plank, C., 2015. **Contested territorialization and biophysical expansion of oil palm plantations in Indonesia.** *Geoforum* 64, 100–111. doi:10.1016/j.geoforum.2015.06.007
- Duro, J.A., Schaffartzik, A., Krausmann, F., 2018. **Metabolic Inequality and Its Impact on Efficient Contraction and Convergence of International Material Resource Use.** *Ecological Economics* 145, 430–440. <https://doi.org/10.1016/j.ecolecon.2017.11.029>
- Eisenmenger, N., Wiedenhofer, D., Schaffartzik, A., Giljum, S., Bruckner, M., Schandl, H., Wiedmann, T.O., Lenzen, M., Tukker, A., Koning, A., 2016. **Consumption-based material flow indicators — Comparing six ways of calculating the Austrian raw material consumption providing six results.** *Ecological Economics* 128, 177–186. doi:10.1016/j.ecolecon.2016.03.010
- Fischer-Kowalski, M., Schaffartzik, A., 2015. **Energy availability and energy sources as determinants of societal development in a long-term perspective.** *MRS Energy & Sustainability - A Review Journal* 2. doi:10.1557/mre.2015.2
- Haberl, H., Kastner, T., Schaffartzik, A., Ludwiczek, N., Erb, K.-H., 2012. **Global effects of national biomass production and consumption: Austria's embodied HANPP related to agricultural biomass in the year 2000.** *Ecological Economics* 84, 66–73. doi:10.1016/j.ecolecon.2012.09.014
- Haberl, H., Erb, K.-H., Krausmann, F., Berecz, S., Ludwiczek, N., Martínez-Alier, J., Musel, A., Schaffartzik, A., 2009. **Using embodied HANPP to analyze teleconnections in the global land system: Conceptual considerations.** *Geografisk Tidsskrift-Danish Journal of Geography* 109, 119–130. doi:10.1080/00167223.2009.10649602
- Jonas, M., Ometto, J.P., Batistella, M., Franklin, O., Hall, M., Lapola, D.M., Moran, E.F., Tramberend, S., Lanza Queiroz, B., Schaffartzik, A., Shvidenko, A., Nilsson, S.B., Nobre, C.A., 2014. **Sustaining ecosystem services: Overcoming the dilemma posed by local actions and planetary boundaries.** *Earth's Future* 2, 407–420. doi:10.1002/2013EF000224
- Kastner, T., Schaffartzik, A., Eisenmenger, N., Erb, K.-H., Haberl, H., Krausmann, F., 2014. **Cropland area embodied in international trade: Contradictory results from different approaches.** *Ecological Economics* 104, 140–144. doi:10.1016/j.ecolecon.2013.12.003
- Kottusch, C., Schaffartzik, A., 2017. **The Socio-Ecological Impacts of Palm Oil Production in Rural Communities. A Study of Material Flows in the Micro-Region Tomé-Açu in Pará, Brazil.** *GAIA - Ecological Perspectives for Science and Society* 26, 129–135. doi:doi.org/10.14512/gaia.26.2.17
- Kramm, J., Pichler, M., Schaffartzik, A., Zimmermann, M., 2017. **Societal Relations to Nature in Times of Crisis—Social Ecology's Contributions to Interdisciplinary Sustainability Studies.** *Sustainability* 9, 1042. doi:10.3390/su9071042
- Krausmann, F., Schaffartzik, A., Mayer, A., Gingrich, S., Eisenmenger, N., 2013. **Global trends and patterns in material use.** *MRS Online Proceedings Library* 1545. doi:10.1557/opl.2013.1075
- Pichler, M., Schaffartzik, A., Haberl, H., Görg, C., 2017. **Drivers of society-nature relations in the Anthropocene and their implications for sustainability transformations.** *Current Opinion in Environmental Sustainability* 26–27, 32–36. doi:10.1016/j.cosust.2017.01.017
- Plank, B., Eisenmenger, N., Schaffartzik, A., Wiedenhofer, D., 2018. **International Trade Drives Global Resource Use: A Structural Decomposition Analysis of Raw Material Consumption from 1990–2010.** *Environmental Science & Technology.* <https://doi.org/10.1021/acs.est.7b06133>
- Schaffartzik, A., 2011. **A Toe in America, a Heel in Asia? A Discussion of the Applicability of the Ecological Footprint to International Trade.** *Journal für Entwicklungspolitik (JEP)* 26, 89–110.

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- Schaffartzik, A., Eisenmenger, N., Krausmann, F., Weisz, H., 2014. **Consumption-based Material Flow Accounting: Austrian trade and consumption in raw material equivalents 1995-2007.** *Journal of Industrial Ecology* 18, 102–112. doi:10.1111/jiec.12055
- Schaffartzik, A., Mayer, A., Gingrich, S., Eisenmenger, N., Loy, C., Krausmann, F., 2014. **The global metabolic transition: Regional patterns and trends of global material flows, 1950–2010.** *Global Environmental Change* 26, 87–97. doi:10.1016/j.gloenvcha.2014.03.013
- Schaffartzik, A., Plank, C., Brad, A., 2014. **Ukraine and the great biofuel potential? A political material flow analysis.** *Ecological Economics* 104, 12–21. doi:10.1016/j.ecolecon.2014.04.026
- Schaffartzik, A., Haberl, H., Kastner, T., Wiedenhofer, D., Eisenmenger, N., Erb, K.-H., 2015. **Trading Land: A Review of Approaches to Accounting for Upstream Land Requirements of Traded Products.** *Journal of Industrial Ecology* 9(15), 703-714. doi:10.1111/jiec.12258
- Schaffartzik, A., Wiedenhofer, D., Eisenmenger, N., 2015. **Raw Material Equivalents: The Challenges of Accounting for Sustainability in a Globalized World.** *Sustainability* 7, 5345–5370. doi:10.3390/su7055345
- Schaffartzik, A., Mayer, A., Eisenmenger, N., Krausmann, F., 2016. **Global patterns of metal extractivism, 1950–2010: Providing the bones for the industrial society's skeleton.** *Ecological Economics* 122, 101–110. doi:10.1016/j.ecolecon.2015.12.
- Schaffartzik, A., Brad, A., Pichler, M., 2017. **A world away and close to home: The multi-scalar “making of” Indonesia’s energy landscape.** *Energy Policy*. doi:10.1016/j.enpol.2017.06.045
- Schaffartzik, A., Pichler, M., 2017. **Extractive Economies in Material and Political Terms: Broadening the Analytical Scope.** *Sustainability* 9, 1047. doi:10.3390/su9071047
- Schandl, H., Fischer-Kowalski, M., West, J., Giljum, S., Dittrich, M., Eisenmenger, N., Geschke, A., Lieber, M., Wieland, H., Schaffartzik, A., Krausmann, F., Gierlinger, S., Hosking, K., Lenzen, M., Tanikawa, H., Miatto, A., Fishman, T., 2017. **Global Material Flows and Resource Productivity: Forty Years of Evidence.** *Journal of Industrial Ecology*. doi:10.1111/jiec.12626
- Wenzlik, M., Eisenmenger, N., Schaffartzik, A., 2015. **What Drives Austrian Raw Material Consumption?: A Structural Decomposition Analysis for the Years 1995 to 2007.** *Journal of Industrial Ecology* 19, 814–824. doi:10.1111/jiec.12341

BOOK CHAPTERS

- Fischer-Kowalski, M., Krausmann, F., Mayer, A., Schaffartzik, A., 2014. **Boserup’s Theory on Technological Change as a Point of Departure for the Theory of Sociometabolic Regime Transitions**, in: Ester Boserup’s Legacy on Sustainability - Orientations for Contemporary Research, Human-Environment Interactions. Springer, Dordrecht, Netherlands, pp. 23–44. doi: 10.1007/978-94-017-8678-2_3
- Fischer-Kowalski, M., Mayer, A., Schaffartzik, A., 2011. **Zur sozialmetabolischen Transformation von Gesellschaft und Soziologie**, in: Groß, M. (Ed.), *Handbuch Umweltsoziologie*. VS Verlag, Wiesbaden, pp. 97–120. doi: 10.1007/978-3-531-93097-8_5
- Fischer-Kowalski, M., Schaffartzik, A., 2008a. **Arbeit, gesellschaftlicher Stoffwechsel und nachhaltige Entwicklung**, in: Füllsack, M. (Ed.), *Verwerfungen Moderner Arbeit. Zum Formwandel des Produktiven*. transcript, Bielefeld, pp. 65–82.
- Fischer-Kowalski, M., Schaffartzik, A., 2008b. **Ökologisierung der Arbeit? Arbeit, gesellschaftlicher Stoffwechsel und nachhaltige Entwicklung**, in: Washietl, E., Pfisterer, E. (Eds.), *Arbeit - Der Mensch zwischen Fremd- und Selbstbestimmung*, Schriftenreihe der Waldviertelakademie. LIT Verlag, Wien, pp. 131–145.
- Krausmann, F., Schaffartzik, A., Mayer, A., Eisenmenger, N., Gingrich, S., Haberl, H., Fischer-Kowalski, M., 2016. **Long term trends in global material and energy resource use**, in: *Social Ecology. Society-Nature Relations across Time and Space, Human-Environment Interactions*. Springer International Publishing, Cham.

- Mayer, A., Schaffartzik, A., Krausmann, F., Eisenmenger, N., 2016. **More than the sum of its parts: Patterns in global material flows**, in: Social Ecology. Society-Nature Relations across Time and Space, Human-Environment Interactions. Springer International Publishing, Cham.
- Niewöhner, J., Østergaard Nielsen, J., Gasparri, I., Gou, Y., Hauge, M., Joshi, N., Schaffartzik, A., Sejersen, F., Seto, K.C., Shughrue, C., 2016. **Conceptualizing Distal Drivers in Land Use Competition**, in: Niewöhner, J., Bruns, A., Hostert, P., Krueger, T., Østergaard Nielsen, J., Haberl, H., Lauk, C., Lutz, J., Müller, D. (Eds.), Land Use Competition. Springer International Publishing, Cham, pp. 21–40.
- Nwakeze, N.M., Schaffartzik, A., 2014. **Revisiting Boserup's Hypotheses in the Context of Africa**, in: Ester Boserup's Legacy on Sustainability - Orientations for Contemporary Research, Human-Environment Interactions. Springer, Dordrecht, Netherlands, pp. 175–188. doi: 10.1007/978-94-017-8678-2_11
- Pichler, M., Brad, A., Schaffartzik, A., 2017. **Räumliche Dynamiken und rohstoffbasierte Entwicklung in Südostasien: Das Beispiel der Palmölexpansion in Indonesien**, in: Burchardt, H.-J., Peters, S., Weinmann, N. (Eds.), Entwicklungstheorie von Heute - Entwicklungspolitik von Morgen. Nomos Verlagsgesellschaft mbH & Co. KG, pp. 223–240.
- Schaffartzik, A., Mayer, A., 2015. **Der Teufelskreis Nachhaltigkeit: Eine sozialmetabolische Perspektive**, in: Systemtheorien und Humanökologie, Edition Humanökologie. OEKOM Verlag, Munich, pp. 301–315. ISBN: 978-3-86581-772-3
- Schaffartzik, A., 2016. **Method Précis: Input-Output Methodology in Social Ecology**, in: Social Ecology. Society-Nature Relations across Time and Space, Human-Environment Interactions. Springer International Publishing, Cham.
- Schaffartzik, A., Brad, A., Pichler, M., Plank, C., 2016. **At a Distance from the Territory: Distal Drivers in the (Re)territorialization of Oil Palm Plantations in Indonesia**, in: Niewöhner, J., Bruns, A., Hostert, P., Krüger, T., Nielsen, J.Ø., Haberl, H., Lauk, C., Lutz, J., Müller, D. (Eds.), Land Use Competition. Ecological, Economic and Social Perspectives. Springer International Publishing, Cham.
- Schaffartzik, A., Eisenmenger, N., Wiedenhofer, D., 2016. **Boundary Issues: Calculating National Material Use for a Globalized World**, in: Social Ecology. Society-Nature Relations across Time and Space, Human-Environment Interactions. Springer International Publishing, Cham.
- Schaffartzik, A., Fischer-Kowalski, M., 2017 (forthcoming). **A socio-metabolic reading of the long-term development trajectories of China and India**, in: Mukhopadhyay, P., Nawn, N., Das, K. (Eds.), Global Change, Ecosystems, Sustainability. Sage Publications, Thousand Oaks, CA.
- Schaffartzik, A., Wiedenhofer, D., 2017 (forthcoming). **Linking society and nature: material flows and the resource nexus**, in: Bleischwitz, R., Hoff, H., Spataru, C., van der Voet, E., VanDeveer, S.D. (Eds.), Routledge Handbook of the Resource Nexus. Routledge.
- Schandl, H., Schaffartzik, A., 2015. **Material Flow Analysis**, in: Wright, J.D. (Ed.), International Encyclopedia of the Social & Behavioral Sciences. Elsevier, Oxford, pp. 760–764. ISBN: 9780080970868
- Theurl, M.C., Schaffartzik, A., 2016. **Method Précis: Life Cycle Assessment**, in: Social Ecology. Society-Nature Relations across Time and Space, Human-Environment Interactions. Springer International Publishing, Cham.

BOOK, EDITED

- Fischer-Kowalski, M., Reenberg, A., Schaffartzik, A., Mayer, A. (Eds.), 2014. **Ester Boserup's Legacy on Sustainability - Orientations for Contemporary Research**, Human-Environment Interactions. Springer, Dordrecht, Netherlands. ISBN: 978-94-017-8677-5

OTHER PUBLICATIONS

- BMLFUW, BMWFJ (Eds.), 2011. **Resource Use in Austria - Report 2011**. N. Eisenmenger, A. Schaffartzik, F. Krausmann, E. Milota. Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management, Austrian Federal Ministry of Economy, Family and Youth, Vienna.

- http://www.bmlfuw.gv.at/dms/lmat/umwelt/nachhaltigkeit/ressourceneffizienz/ressourcennutzung_zahlen-und-fakten/Ressourcenbericht11/Resource-Use-in-Austria-Report-2011_engl/Resource%20Use%20in%20Austria%20Report%202011_engl.pdf
- BMLFUW, BMWFJ (Eds.), 2011. **Ressourcennutzung in Österreich - Bericht 2011**. N. Eisenmenger, A. Schaffartzik, F. Krausmann, E. Milota. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Bundesministerium für Wirtschaft, Familie und Jugend, Wien.
http://www.bmlfuw.gv.at/dms/lmat/umwelt/nachhaltigkeit/ressourceneffizienz/ressourcennutzung_zahlen_fakten/Ressourcenbericht11/Ressourcennutzung.pdf
- BMLFUW, BMWFW (Eds.), 2015. **Resource Use in Austria - Report 2015**. A. Schaffartzik, N. Eisenmenger, F. Krausmann, E. Milota. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Bundesministerium für Wirtschaft, Familie und Wissenschaft, Wien.
- BMLFUW, BMWFW (Eds.), 2015. **Ressourcennutzung in Österreich - Bericht 2015**. A. Schaffartzik, N. Eisenmenger, F. Krausmann, E. Milota. Bundesministerium für Land- und Forstwirtschaft, Umwelt und Wasserwirtschaft, Bundesministerium für Wirtschaft, Familie und Wissenschaft, Wien. https://www.bmlfuw.gv.at/dam/jcr:5f7d5688-9efa-4e99-ab33-48ec5f567da7/renu15_DE_web_abgabe2.pdf
- Fischer-Kowalski, M., Schaffartzik, A., Pauliuk, S., 2014. **Economy-Wide Accounts**, LIAISE Toolbox. <http://www.liaise-kit.eu/ia-methods/economy-wide-accounts>
- Krausmann, F., Fischer-Kowalski, M., Schaffartzik, A., Steinberger, J.K., Eisenmenger, N., Weisz, U., 2011. **Trends and Developments of the Use of Natural Resources in the European Union** (No. 123), Social Ecology Working Papers. http://www.uni-klu.ac.at/socec/downloads/WP123_webversion_neu.pdf
- Krausmann, F., Schaffartzik, A., Mayer, A., Eisenmenger, N., Haberl, H., Fischer-Kowalski, M., 2014. **La société industrielle mondiale ne connaît aucune dématérialisation depuis le XIXe siècle**. *La Revue Durable* 22–24. <http://www.larevuedurable.com/fr/ressources-et-equilibres-de-la-terre/1038-la-societe-industrielle-mondiale-ne-connaît-aucune-dematerialisation-depuis-le-xixe-siecle.html>
- Krausmann, F., Weisz, H., Eisenmenger, N., Schütz, H., Haas, W., Schaffartzik, A., 2015. **Economy-wide Material Flow Accounting Introduction and Guide** (No. 151), Social Ecology Working Papers. Institute of Social Ecology, Vienna. [http://www.uni-klu.ac.at/socec/downloads/WP_151_MFA_guide_final_26_02_2015_\(2\).pdf](http://www.uni-klu.ac.at/socec/downloads/WP_151_MFA_guide_final_26_02_2015_(2).pdf)
- Mayer, A., Schaffartzik, A., Haas, W., Rojas-Sepúlveda, A., World Rainforest Movement, GRAIN, Brad, A., Pichler, M., Plank, C., Birke Andarge, H., 2015. **Patterns of global biomass trade – Implications for food sovereignty and socio-environmental conflicts** (No. 20), EJOLT Report. http://www.ejolt.org/wordpress/wp-content/uploads/2015/03/150312_EJOLT-20-Biomass-FINAL-VERSION.pdf
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- Schaffartzik, A., Fischer-Kowalski, M., 2017. **Book Review of Fossil Capital: The Rise of Steam Power and the Roots of Global Warming**, by Andreas Malm . Brooklyn, NY, USA: PB - Verso Books , 2016, 496 pp., ISBN 9781784781293, paperback, \$29.95. *Journal of Industrial Ecology* n/a-n/a. doi:10.1111/jiec.12558
- Schaffartzik, A., Sachs, M., Wiedenhofer, D., Eisenmenger, N., 2014. **Environmentally Extended Input-Output Analysis** (No. 154), Social Ecology Working Paper. Institute of Social Ecology, Vienna, Austria. http://www.uni-klu.ac.at/socec/downloads/WP154_webversion_v3.pdf
- Schaffartzik, A., Wiedenhofer, D., Fischer-Kowalski, M., 2016. **More Productive, Less Sustainable? On the Need to Consider Material Resource Flows**. *Intereconomics* 51, 200–204. doi:10.1007/s10272-016-0602-2
- UNEP, 2016. **Global material flows and resource productivity**. Authors: Heinz Schandl, Marina Fischer-Kowalski, Jim West, Stefan Giljum, Monika Dittrich, Nina Eisenmenger, Arne Geschke, Mirko Lieber, Hanspeter Wieland, Anke Schaffartzik, Fridolin Krausmann, Sylvia Gierlinger, Karin Hosking, Manfred Lenzen, Hiroki Tanikawa, Alessio Miatto, Tomer Fishman (No. United Nations Environment Programme, International Resource Panel). Nairobi.